QDSP-5000

Fanless Box PC w/ Intel® Core Processor i7-3517UE

User's Guide

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Safety Instructions

■ Before You Begin

Before handling the product, read the instructions and safety guidelines on the following pages to prevent damage to the product and to ensure your own personal safety. Refer to the “Advisories” section in the Preface for advisory conventions used in this user’s guide, including the distinction between Warnings, Cautions, Important Notes, and Notes.

- Always use caution when handling/operating a computer. Only qualified, experienced, authorized electronics service personnel should access the interior of a computer. The power supplies produce high voltages and energy hazards, which can cause bodily harm.
- Use extreme caution when installing or removing components. Refer to the installation instructions in this user’s guide for precautions and procedures. If you have any questions, please contact Quanmax Post-Sales Technical Support.
- Access can only be gained by service persons or by users who have been instructed about the reasons for the restrictions applied to the location and about any precautions that shall be taken; and access is through the use of a tool or lock and key, or other means of security, and is controlled by authority responsible for the location.

WARNING

High voltages are present inside the chassis when the unit’s power cord is plugged into an electrical outlet. Turn off system power, turn off the power supply, and then disconnect the power cord from its source before removing the chassis cover. Turning off the system power switch does not remove power to components.

■ When Working Inside a Computer

Before taking covers off a computer, perform the following steps:

1. Turn off the computer and any peripherals.
2. Disconnect the computer and peripherals from their power sources or subsystems to prevent electric shock or system board damage. This does not apply when hot swapping parts.
3. Follow the guidelines provided in “Preventing Electrostatic Discharge” on the following page.
4. Disconnect any telephone or telecommunications lines from the computer.

In addition, take note of these safety guidelines when appropriate:

- To help avoid possible damage to system boards, wait five seconds after turning off the computer before removing a component, removing a system board, or disconnecting a peripheral device from the computer.
- When you disconnect a cable, pull on its connector or on its strain-relief loop, not on the cable itself. Some cables have a connector with locking tabs. If you are disconnecting this type of cable, press in on the locking tabs before disconnecting the cable. As you pull connectors apart, keep them evenly aligned to avoid bending any connector pins. Also, before connecting a cable, make sure both connectors are correctly oriented and aligned.

CAUTION

Do not attempt to service the system yourself except as explained in this user’s guide. Follow installation and troubleshooting instructions closely.

■ Preventing Electrostatic Discharge

Static electricity can harm system boards. Perform service at an ESD workstation and follow proper ESD procedure to reduce the risk of damage to components. Quanmax strongly encourages you to follow proper ESD procedure, which can include wrist straps and smocks, when servicing equipment.
You can also take the following steps to prevent damage from electrostatic discharge (ESD):

- When unpacking a static-sensitive component from its shipping carton, do not remove the component's antistatic packing material until you are ready to install the component in a computer. Just before unwrapping the antistatic packaging, be sure you are at an ESD workstation or grounded. This will discharge any static electricity that may have built up in your body.
- When transporting a sensitive component, first place it in an antistatic container or packaging.
- Handle all sensitive components at an ESD workstation. If possible, use antistatic floor pads and workbench pads.
- Handle components and boards with care. Don't touch the components or contacts on a board. Hold a board by its edges or by its metal mounting bracket.
- Do not handle or store system boards near strong electrostatic, electromagnetic, magnetic, or radioactive fields.

Instructions for Lithium Battery

WARNING

Danger of explosion when battery is replaced with incorrect type. Only replace with the same or equivalent type recommended by the manufacturer.

Do not dispose of lithium batteries in domestic waste. Dispose of the battery according to the local regulations dealing with the disposal of these special materials (e.g. to the collecting points for disposal of batteries)

Preface

■ How to Use This Guide

This guide is designed to be used as step-by-step instructions for installation, and as a reference for operation, troubleshooting, and upgrades.

NOTE

Driver downloads and additional information are available under Downloads on our web site: www.quanmax.com.

■ Unpacking

When unpacking, follow these steps:

1. After opening the box, save it and the packing material for possible future shipment.
2. Remove all items from the box. If any items listed on the purchase order are missing, notify Quanmax customer service immediately.
3. Inspect the product for damage. If there is damage, notify Quanmax customer service immediately. Refer to “Warranty Policy” for the return procedure.

■ Regulatory Compliance Statements

This section provides the FCC compliance statement for Class A devices.

FCC Compliance Statement:

This equipment has been tested and found to comply with limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reason able protection against harmful interference in residential installations. This equipment generates, uses, and can radiate radiofrequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that

interference will not occur in a particular installation. If this equipment does cause interference to radio or television equipment reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by your dealer could void the user's authority to operate the equipment.

NOTE

The assembler of a personal computer system may be required to test the system and/or make necessary modifications if a system is found to cause harmful interference or to be noncompliant with the appropriate standards for its intended use.

■ Warranty Policy

Limited Warranty

Please consult your distributor for warranty verification.

The limited warranty is void if the product has been subjected to alteration, neglect, misuse, or abuse; if any repairs have been attempted by anyone other than your manufacturer or its authorized agent; or if the failure is caused by accident, acts of God, or other causes beyond the control of your dealer or the manufacturer. Neglect, misuse, and abuse shall include any installation, operation, or maintenance of the product other than in accordance with the user’s guide.

No agent, dealer, distributor, service company, or other party is authorized to change, modify, or extend the terms of this Limited Warranty in any manner whatsoever. Your manufacturer reserves the right to make changes or improvements in any product without incurring any obligation to similarly alter products previously purchased.

Return Procedure

For any Limited Warranty return, please contact with your dealer.
All product(s) returned to your dealer for service or credit must be accompanied by a Return Material Authorization (RMA) Number. Freight on all returned items must be prepaid by the customer who is responsible for any loss or damage caused by common carrier in transit. Returns for Warranty must include a Failure Report for each unit, by serial number(s), as well as a copy of the original invoice showing the date of purchase.
To reduce risk of damage, returns of product must be in a shipping container. If the original container has been lost or damaged, new shipping containers may be obtained from your dealer's Customer Service at a nominal cost.
We own all parts removed from repaired products. We use new and reconditioned parts made by various manufacturers in performing warranty repairs and building replacement products. If your dealer repairs or replaces a product, its warranty term is not extended.
Shipments not in compliance with this Limited Warranty Return Policy will not be accepted by us.

Limitation of Liability

In no event shall your dealer be liable for any defect in hardware, software, loss, or inadequacy of data of any kind, or for any direct, indirect, incidental, or consequential damages in connection with or arising out of the performance or use of any product furnished hereunder. Our liability shall in no event exceed the purchase price of the product purchased hereunder. The foregoing limitation of liability shall be equally applicable to any service provided by us or its authorized agent.

■ Maintaining Your Computer

Environmental Factors

■ **Temperature**

The ambient temperature within an enclosure may be greater than room ambient temperature. Installation in an enclosure should be such that the amount of air flow required for safe operation is not compromised. Consideration should be given to the maximum rated ambient temperature. Overheating can cause a variety of problems, including premature aging and failure of chips or mechanical failure of devices.

If the system has been exposed to abnormally cold temperatures, allow a two-hour warm-up period to bring it up to normal operating temperature before turning it on. Failure to do so may cause damage to internal components, particularly the hard disk drive.

■ **Humidity**

High-humidity can cause moisture to enter and accumulate in the system. This moisture can cause corrosion of internal components and degrade such properties as electrical resistance and thermal conductivity. Extreme moisture buildup inside the system can result in electrical shorts, which can cause serious damage to the system.

Buildings in which climate is controlled usually maintain an acceptable level of humidity for system equipment. However, if a system is located in an unusually humid location, a dehumidifier can be used to maintain the humidity within an acceptable range. Refer to the “Specifications” section of this user’s guide for the operating and storage humidity specifications.

■ **Altitude**

Operating a system at a high altitude (low pressure) can cause electrical problems related to arcing and corona effects. This condition can also cause sealed components with internal pressure, such as electrolytic capacitors, to fail or perform at reduced efficiency.

Power Protection

The greatest threats to a system's supply of power are power loss, power spikes, and power surges caused by electrical storms, which interrupt system operation and/or damage system components. To protect your system, always properly ground power cables and one of the following devices.

- **Surge Protector**

  Surge protectors are available in a variety of types and usually provide a level of protection proportional with the cost of the device. Surge protectors prevent voltage spikes from entering a system through the AC power cord. Surge protectors, however, do not offer protection against brownouts, which occur when the voltage drops more than 20 percent below the normal AC line voltage level.

- **Line Conditioner**

  Line conditioners go beyond the over voltage protection of surge protectors. Line conditioners keep a system's AC power source voltage at a fairly constant level and, therefore, can handle brownouts. Because of this added protection, line conditioners cost more than surge protectors. However, line conditioners cannot protect against a complete loss of power.

- **Uninterruptible Power Supply**

  Uninterruptible power supply (UPS) systems offer the most complete protection against variations on power because they use battery power to keep the server running when AC power is lost. The battery is charged by the AC power while it is available, so when AC power is lost, the battery can provide power to the system for a limited amount of time, depending on the UPS system.
  UPS systems range in price from a few hundred dollars to several thousand dollars, with the more expensive unit s allowing you to run larger systems for a longer period of time when AC power is lost. UPS systems that provide only 5 minutes of battery power let you conduct an orderly shutdown of the system, but are not intended to provide continued operation. Surge protectors should be used with all UPS systems, and the UPS system should be Underwriters Laboratories (UL) safety approved.

Chapter 1

Introduction

■ Overview

The QDSP-5000 is a fanless Box PC ideal for space critical applications. This embedded hardware platform features Intel® Core Processor i7-3517UE, Intel® QM77 Express chipset, and DDR3 1333/1600 SO-DIMM. It comes with 2.5" SSD, mSATA, 2x Mini-PCIe slots, HDMI, 2x DP, 2x USB2.0, 4x USB3.0, 2x COM, and Audio. The QDSP-5000 provides triple-independent display and dual storage, high reliability rugged case not only for great protection from EMI, cold and heat, but also integrated with passive cooling design for quiet fanless operation such as Digital Signage.

Checklist

- QDSP-5000
- Power Adapter
- Power Cord
- Driver CD
- Quick installation Guide
- Optional VESA-mount and Wall-Mount
- Optional wireless LAN / 3G

Features

- Intel® Core Processor i7-3517UE / Intel® QM77 Express Chipset
- DDR3 1333/1600 MHz memory support up to 16 GB
- 1x HDMI, 2x DP, 1x S/PDIF Output and Clear CMOS
- 2x USB2.0, 4x USB3.0, 2x COM, 2x GbE LAN and Audio
- 1x mSATA, 2x Mini-PCIe slots
- Triple-independent display /Dual storage
- TPM, iAMT supported
- Optional VESA-mount and Wall-Mount

■ Product Specifications

Dimensions	220 x 153.3 x 38 mm (W x D x H)
Chipset	Intel® QM77 Express Chipset
CPU support	Intel® Core Processor i7-3517UE (4M Cache, up to 2.80 GHz)
Memory	2x Single Channel DDR3 1333/1600MHz SODIMM support (16 GB max)
BIOS	AMI Plug & Play SPI BIOS
Storage	1x 2.5" SSD 1x eSATA and USB 2.0 combo connector and 1x mSATA
Front IO	■ Realtek ALC662 HD Codec w/ 2W Audio Amplifier, Mic-In, Line-In, Line-Out ■ 1x S/PDIF Output ■ 1x eSATA and USB 2.0 combo supported ■ 2x USB 2.02x USB 3.0 ■ 1x Power Button with Power LED1x Storage HDD status LED (RED) ■ 1x Wifi /3G status LED (Green) ■ 1x Clear CMOS
Rear IO	■ 1x DC JACK ■ 1x HDMI ■ 2x DP ■ 2x RJ-45 GbE ports (Realtek RTL8111E/ Intel 82579)PXE / WOL supported ■ 2x USB 3.0 ■ 2x COM Ports support RS-232/422/485 ■ 2x WiFi External Antennas (optional) ■ 1x 3G External Antenna (optional)
Expansion Slot	2x Mini-PCIe slots (SIM Card socket supported)
TPM / iAMT	TPM, iAMT supported
OS Support	Windows 7 / Windows 8/ Linux
Hardware Monitor	Operating voltage, CPU temperature
Watchdog Timer	1-255 step, can be set with software on Super I/O
Power	DC 19V Input
Temperature / Humidity	Operating: 0°C to 40°C, 0%-90%, non-condensing Storage: -20°C to 80°C, 0%-90%, non-condensing
Mounting	Optional VESA-mount and Wall-Mount
Certifications	CE, FCC Class A

Table 1 QDSP-5000 Specification

■ System tour

Refer to the figures below to identify the components of the system.

■ Front Panel

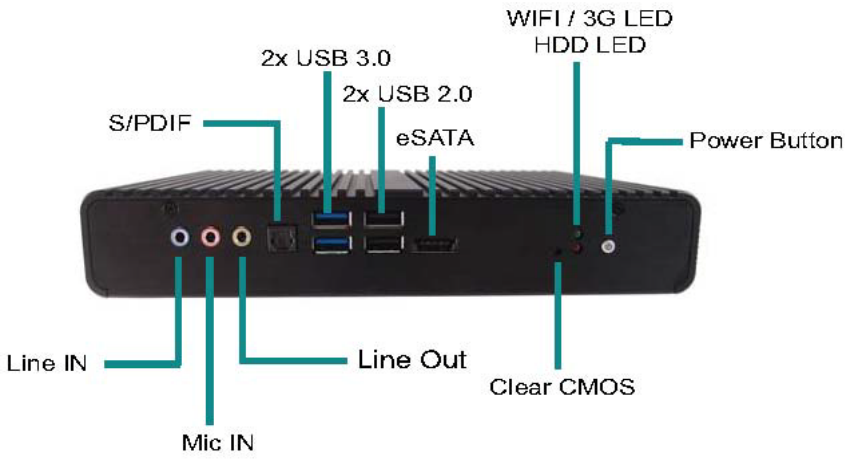


Figure 1 Front Panel

Power Switch

The power push button allows powering ON and OFF the system.

Clear CMOS Button

To clear the CMOS, use the tip of a pen to press the button briefly

Power LED (Blue)

The power LED will light when the PC is power-on.

HDD LED (Red)

The hard disk LED blinks when data is being written into or read from the HDD.

WiFi LED (Green)

When the data is Transferring, the WiFi LED will blink.

USB

The USB (Universal Serial Bus) port is compatible with USB devices such as keyboards, mouse devices, cameras, and hard disk drives. USB allows many devices to run simultaneously on a single computer, with some peripheral acting as additional plug-in sites or hubs.

eSATA/USB (combo)

This provides eSATA and USB connectivity as a combo con

S/PDIF

S/PDIF output for carrying digital audio signals out to the device.

Phone Jack

Audio Out

The stereo headphone jack is used to connect the system's audio out signal to amplified speakers or headphones.

MIC-IN

The microphone jack is designed to connect the microphone used for video conferencing, voice narrations, or simple audio recordings.

Line-IN

The Line-in jack is designed to take input from a higher-powered sound source.

CAUTION

This connector do not support hot-swapping. Users should not connect or disconnect their eSATA/USB devices from PC when the system is working.

■ Rear Panel

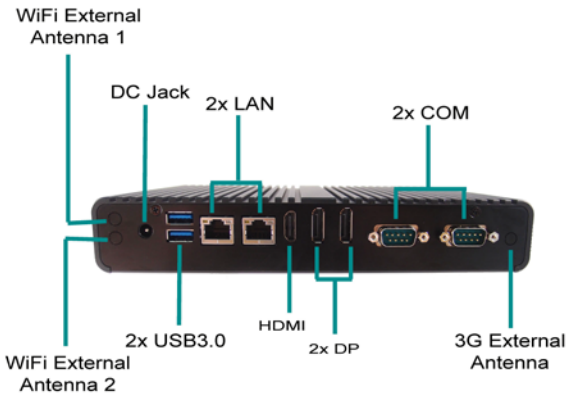


Figure 2 Rear Panel

COM

COM 1/COM 2 - D-Sub 9 pin connector for RS-232/422/485 connection

Ethernet

The eight-pin RJ-45 LAN port supports a standard Ethernet cable for connection to a local network.

HDMI

HDMI connector for display output

DC Jack

The supplied power adapter converts AC power to DC for use with this jack. Power supplied through this jack supplies power to the PC. To prevent damage to the PC, always use the supplied power adapter.

DP

DP is a display interface used to connect a video source to a display device such as a computer monitor or a television set.

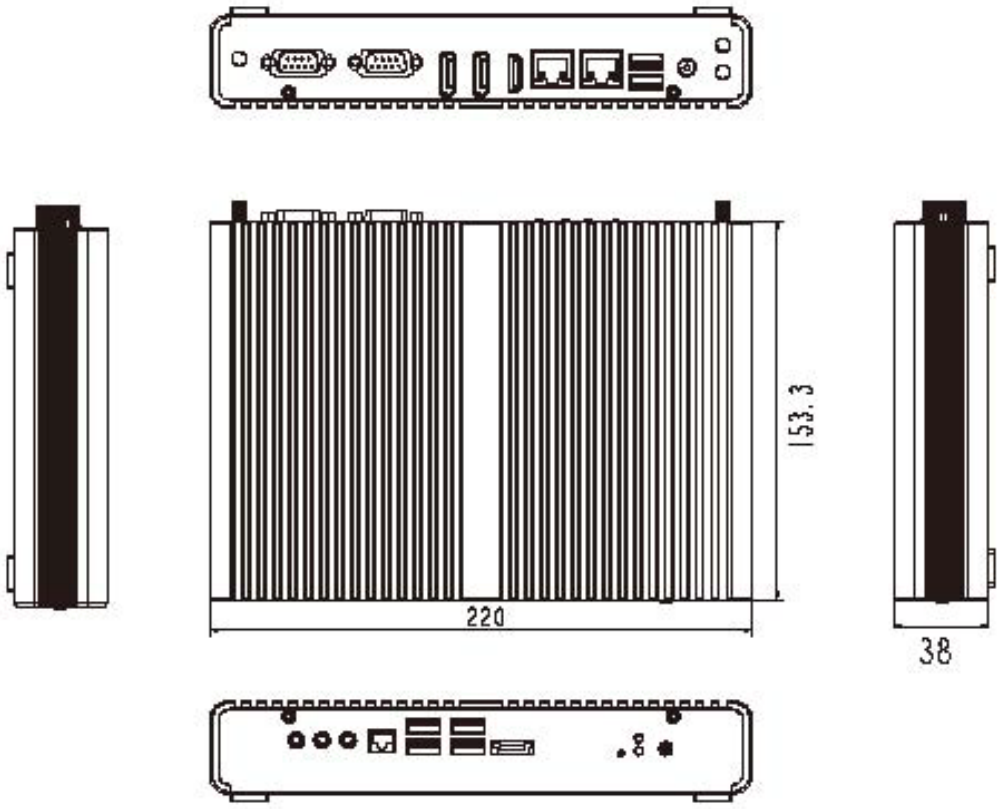
WiFi / 3G External Antenna (optional)

Spared hole on the casing for connecting WiFi /3G external antenna

USB

The USB (Universal Serial Bus) port is compatible with USB devices such as keyboards, mouse devices, cameras, and hard disk drives. USB allows many devices to run simultaneously on a single computer, with some peripheral acting as additional plug-in sites or hubs.

■ Mechanical Dimensions



Dimension: 220 x 38 x 153.3 mm (W x H x D)

Figure 3 Mechanical Dimensions

Chapter 2

Getting Started

■ Setting up your PC

■ Connect the monitor, mouse and keyboard

Connecting the monitor

Connect the DP/ HDMI cable from your display to the DP/ HDMI port.

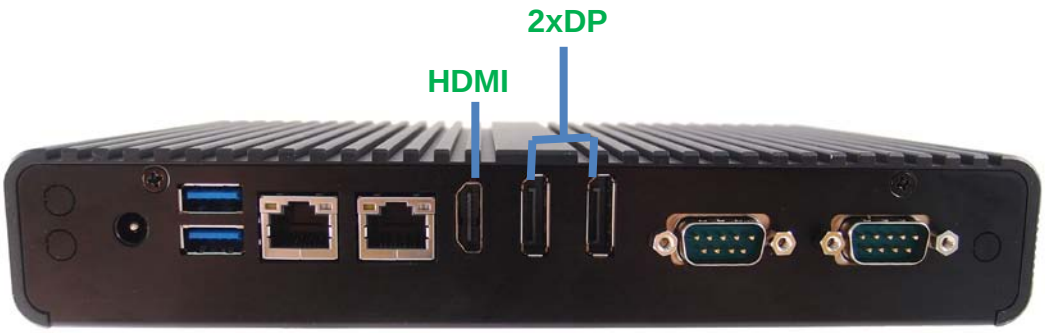


Figure 4 Connect the DP /HDMI cable

Connecting USB mouse & keyboard

Your QDSP-5000 does not come with a keyboard and mouse, but you can use any USB keyboard or mouse with your computer.

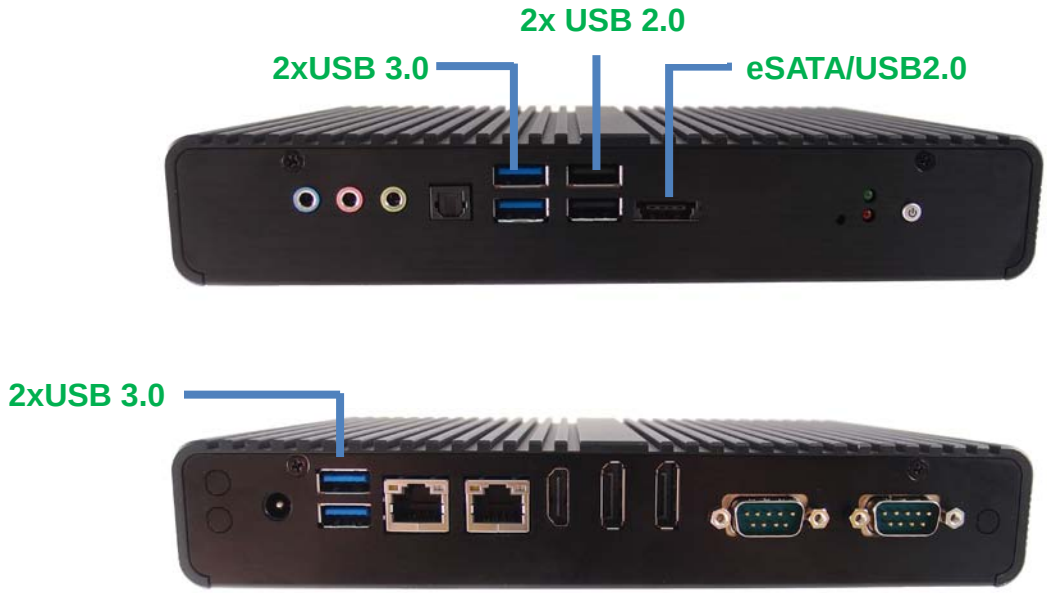


Figure 5 Connecting USB mouse & keyboard

NOTE

Using a third-party USB mouse or keyboard may require software drivers. Check the manufacturer's website for the latest software drivers.

■ Connecting to a network device

Connect one end of a network cable to the LAN port on the system rear panel and the other end to a hub or switch.

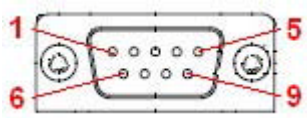
Figure 6 Network cable with RJ45 connector

■ COM ports

COM ports with the pin definitions.

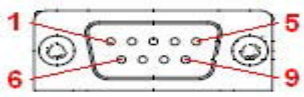
Figure 7 COM Ports

COM1 RS-232 / 422 / 485 Port DB-9



Pin	RS-232	RS-422	Half Duplex RS-485	Full Duplex RS-485
1	DCD	TX	DATA	TX
2	RXD	RX+	NA	RX+
3	TXD	TX+	DATA+	TX+
4	DTR	RX	NA	RX
5	GND	GND	GND	GND
6	DSR	NA	NA	NA
7	RTS	NA	NA	NA
8	CTS	NA	NA	NA
9	RI / +5V*	NA / +5V*	NA / +5V*	NA / +5V*
*:Pin-9 can be set for +5V output in BIOS setup.				

COM2 RS-232 / 422 / 485 Port DB-9



Pin	RS-232	RS-422	Half Duplex RS-485	Full Duplex RS-485
1	DCD	TX	DATA	TX
2	RXD	RX+	NA	RX+
3	TXD	TX+	DATA+	TX+
4	DTR	RX	NA	RX
5	GND	GND	GND	GND
6	DSR	NA	NA	NA
7	RTS	NA	NA	NA
8	CTS	NA	NA	NA
9	RI / +5V*	NA / +5V*	NA / +5V*	NA / +5V*
*:Pin-9 can be set for +5V output in BIOS setup.				

■ Turning on the system

1. Connect the power adapter cable to the DC jack (DC IN) of the QDSP-5000
2. Connect the power cable to the power adapter
3. Connect the power cable to a power outlet
4. Press the power button on the front panel to turn on the system

Figure 8 Turning on the system

Chapter 3

AMI BIOS Setup

■ Overview

This chapter provides a description of the AMI BIOS. The BIOS setup menus and available selections may vary from those of your product. For specific information on the BIOS for your product, please contact with your dealer.

NOTE

The BIOS menus and selections for your product may vary from those in this chapter. For the BIOS manual specific to your product, please contact with us.

AMI's ROM BIOS provides a built-in Setup program, which allows the user to modify the basic system configuration and hardware parameters. The modified data will be stored in a battery-backed CMOS, so that data will be retained even when the power is turned off. In general, the information saved in the CMOS RAM will not need to be changed unless there is a configuration change in the system, such as a hard drive replacement or when a device is added.
It is possible for the CMOS battery to fail, which will cause data loss in the CMOS only. If this happens you will need to reconfigure your BIOS settings.

■ Main Menu

The BIOS Setup is accessed by pressing the DEL key after the Power-On Self-Test (POST) memory test begins and before the operating system boot begins. Once you enter the BIOS Setup Utility, the Main Menu will appear on the screen. The Main Menu provides System Overview information and allows you to set the System Time and Date. Use the “<” and “>” cursor keys to navigate between menu screens.

Table 2 BIOS Main Menu

BIOS SETUP UTILITY					
Main	Advanced	Boot	Security	Save & Exit	
Product Information					
Product Name		QDSP-5000			
BIOS Version		0.01 (x64)			
BIOS Build Date		11/06/2012			
ME FW Version		8.0.20.1513			
CPU Information					
Intel® Core ™ i7-3517UE CPU @ 1.70GHz					
Microcode Revision		15			→ ← Select Screen
Processor Cores		2			↑↓ Select Item
					Enter: Select
Memory Information					+- Change Opt.
					F1: General Help
Total Size		8192 MB (DDR3)			F2: Previous Values
Frequency		1333 MHz			F3: Optimized Defaults
System date		[Mon 12/17/2012]			F4 Save & Exit
System time		[13:22:19]			ESC Exit
Version 2.15.1234. Copyright (C) 2012, American Megatrends, Inc.					

■ Advanced Menu

Table 3 Advanced Menu

BIOS SETUP UTILITY		
Main **Advanced** Boot Security Server Mgmt Save & Exit		
Onboard LAN1 Controller	[Enabled]	→ ← Select Screen
Onboard LAN1 Boot	[Disabled]	↑↓ Select Item
Onboard LAN2 Controller	[Enabled]	Enter: Select
Onboard LAN2 Boot	[Disabled]	+- Change Opt.
Audio Controller	[Enabled]	F1: General Help
		F2: Previous Values
> Display Configuration		F3: Optimized Defaults
> Power Management Configuration		F4 Save & Exit
> CPU Advanced Configuration		ESC Exit
> AMT Configuration		
> Trusted Computing		
> SATA Configuration		
> Intel(R) Rapid Start Technology		
> Intel TXT(LT) Configuration		
>USB Configuration		
>Super IO Configuration		
>H/W Monitor		
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Onboard LAN 1 Controller

Options: Disabled, Enabled

Onboard LAN 1 Boot

Options: Disabled, Enabled

Onboard LAN 2 Controller

Options: Disabled, Enabled

Onboard LAN 2 Boot

Options: Disabled, Enabled

Audio Controller

Options: Disabled, Enabled

Table 4 Advanced Menu – Display Configuration

BIOS SETUP UTILITY		
Main **Advanced** Boot Security Server Mgmt Save & Exit		
Display Configuration		→ ← Select Screen ↑↓ Select Item Enter: Select +- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4 Save & Exit ESC Exit
Aperture Size	[256 MB]	
DVMT Pre-Allocated	[64M]	
DVMT Total Gfx Mem	[256 M]	
IGFX – Boot Type	[VBIOS Default]	
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Aperture Size

Options: 128MB, 256MB, 512MB

DVMT Pre-Allocated

Options:32M, 64M, 96M, 128M, 160M, 192M, 224M, 256M, 288M, 320M, 352M, 384M, 416M, 448M, 480M, 512M, 1024M

DVMT Total Gfx Mem

Options: 128M, 256M, MAX

IGFX – Boot Type

Options: VBIOS Default, CRT, HDMI, DP1, DP2

Table 5 Advanced Menu –Power Management Configuration

BIOS SETUP UTILITY		
Main **Advanced** Boot Security Server Mgmt Save & Exit		
Power Management Configuration		
ACPI Sleep State	[S3 (Suspend to RAM)]	
Restore AC Power Loss	[Power Off]	
Resume By PCIE Device	[Disabled]	→ ← Select Screen
Resume By RTC Alarm	[Disabled]	↑↓ Select Item
EUP Power Saving Mode	[Disabled]	Enter: Select
>Watchdog Timer Configuration		+- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4 Save & Exit ESC Exit
Version 2.15.1234. Copyright (C) 2012, American Megatrends, Inc.		

ACPI Sleep State

Options: Suspend Disabled, S1 (CPU Stop Clock), S3 (Suspend to RAM)

Restore AC Power Loss

Options: Power Off, Power On, Last State

Resume By PCIE Device

Options: Disabled, Enabled

Resume By RTC Alarm

Options: Disabled, Enabled

EUP Power Saving Mode

Options: Disabled, Enabled

Watchdog Timer Configuration

- **WDT Function** [Disabled]

  Options: Disabled, Enabled

Table 6 Advanced Menu –CPU Advanced Configuration

BIOS SETUP UTILITY					
Main	**Advanced**	Boot	Security	Save &	Exit
CPU Advanced Configuration					
EIST		[Enabled]		→ ← Select Screen	
Turbo Mode		[Enabled]		↑↓ Select Item	
Hyper Treading		[Enabled]		Enter: Select	
VT-d		[Enabled]		+- Change Opt.	
				F1: General Help	
				F2: Previous Values	
				F3: Optimized Defaults	
Active Processor Cores		[All]		F4 Save & Exit	
Limit CPUID Maximum		[Disabled]		ESC Exit	
Execute Disable Bit		[Enabled]			
Intel ® Virtualization Tech		[Disabled]			
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EIST

Options: Disabled, Enabled

Turbo Mode

Options: Disabled, Enabled

Hyper Threading

Options: Disabled, Enabled

VT-d

Options: Disabled, Enabled

Active Processor Cores

Options: All, 1

Limit CPUID Maximum

Options: Disabled, Enabled

Execute Disable Bit

Options: Disabled, Enabled

Intel ® Virtualization Tech

Options: Disabled, Enabled

Table 7 Advanced Menu –AMT Configuration

BIOS SETUP UTILITY		
Main **Advanced** Boot Security Save & Exit		
Intel AMT	[Enabled]	→ ← Select Screen ↑↓ Select Item Enter: Select +- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4 Save & Exit ESC Exit
Un-Configure ME	[Disabled]	
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Intel AMT

Options: Disabled, Enabled

Un-Configure ME

Options: Disabled, Enabled

Table 8 Advanced Menu –Trusted Computing

BIOS SETUP UTILITY					
Main	**Advanced**	Boot	Security	Save & Exit	
Configuration				→ ← Select Screen ↑↓ Select Item Enter: Select +- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4 Save & Exit ESC Exit	
Security Device Support		[Disable]			
Current Status Information SUPPORT TURNED OFF					
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Security Device Support

Options: Disable, Enable

Table 9 Advanced Menu –SATA Configuration

BIOS SETUP UTILITY		
Main **Advanced** Boot Security Save & Exit		
SATA Controller(s)	[Enabled]	→ ← Select Screen ↑↓ Select Item Enter: Select +- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4 Save & Exit ESC Exit
SATA Mode Selection	[AHCI]	
SATA Controller Speed	[Default]	
Serial ATA Port 0	Empty	
Software Preserve	Unknown	
Port 0	[Enabled]	
SATA Device Type	[Hard Disk Driver]	
Serial ATA Port 1	INTEL SSDSA2M0 (400GB)	
Software Preserve	Supported	
Port 1	[Enabled]	
SATA Device Type	[Hard Disk Driver]	
Serial ATA Port 4	Empty	
Software Preserve	Unknown	
Port 4	[Enabled]	
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SATA Controller(s)

Options: Disabled, Enabled

SATA Mode Selection

Options: IDE, AHCI

SATA Controller Speed

Options: Default, Gen 1, Gen 2, Gen 3

Port 0, 1, 4

Options: Disabled, Enabled

SATA Device Type

Options: Hard Disk Driver, Solid State Driver

Table 10 Advanced Menu – Intel Rapid Start Technology

BIOS SETUP UTILITY		
Main **Advanced** Boot Security Server Mgmt Save & Exit		
Intel® Rapid Start Technology	[Disabled]	→ ← Select Screen ↑↓ Select Item Enter: Select +- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4 Save & Exit ESC Exit
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Intel® Rapid Start Technology

Options: Disabled, Enabled

Table 11 Advanced Menu –Intel TXT (LT) Configuration

BIOS SETUP UTILITY		
Main **Advanced** Boot Security Save & Exit		
Intel Trusted Execution technology Configuration Intel TXT support only can be enabled / disabled if SMX is enabled. VT and VT-d support must also be enabled prior to TXT. Secure Mode Extensions (SMX) Intel TXT (LT) Support	 Enabled [Disabled]	→ ← Select Screen ↑↓ Select Item Enter: Select +- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4 Save & Exit ESC Exit
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Table 12 Advanced Menu –USB Configuration

BIOS SETUP UTILITY					
Main	**Advanced**	Boot	Security	Save & Exit	
USB Configuration				→ ← Select Screen ↑↓ Select Item Enter: Select +- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4 Save & Exit ESC Exit	
USB Devices:					
1 Keyboard, I Mouse, 2 Hubs					
Legacy USB Support		[Enabled]			
USB 3.0 Support		[Enabled]			
XHCI hand-off		[Enabled]			
EHCI Hand-off		[Disabled]			
USB Mass Storage Driver Support		[Enabled]			
XHCI Pre-Boot Driver		[Enabled]			
XHCI Mode		[Smart Auto]			
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Legacy USB Support

Options: Disabled, Enabled, Auto

USB 3.0 Support

Options: Disabled, Enabled

XHCI hand-off

Options: Disabled, Enabled

EHCI hand-off

Options: Disabled, Enabled

USB Mass Storage Driver Support

Options: Disabled, Enabled

XHCI Pre-Boot Driver

Options: Disabled, Enabled

XHCI Mode

Options: Auto, Smart Auto, Disabled, Enabled

Table 13 Advanced Menu – Super IO Configuration

BIOS SETUP UTILITY						
Main	**Advanced**	Boot	Security	Server Mgmt	Save &	Exit
Super IO Configuration >Serial Port 1 Configuration >Serial Port 2 Configuration						
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Table 14 Advanced Menu –Super IO Configuration – Serial Port 1 Configuration

BIOS SETUP UTILITY						
Main	**Advanced**	Boot	Security	Server Mgmt	Save &	Exit
Serial Port 1 Configuration Serial Port Device Settings Change Settings Serial Port 1 Type COM1 Pin9 Definition			[Enabled] IO=3F8h; IRQ=4 [Auto] [RS232] [RI]		→ ← Select Screen ↑↓ Select Item Enter: Select +- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4 Save & Exit ESC Exit	
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Serial Port

Options: Disabled, Enabled

Change Settings

Options: Auto,

IO=3F8h; IRQ=4;

IO=3F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;

IO=2F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;

IO=3E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;

IO=2E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;

Serial Port Type

Options: RS232, RS422, RS485

COM1 Pin9 Definition

Options: RI, +5V

Table 15 Advanced Menu –Super IO Configuration – Serial Port 2 Configuration

BIOS SETUP UTILITY		
Main **Advanced** Boot Security Server Mgmt Save & Exit		
Serial Port 2 Configuration		→ ← Select Screen ↑↓ Select Item Enter: Select +- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4 Save & Exit ESC Exit
Serial Port	[Enabled]	
Device Settings	IO=2F8h; IRQ=3	
Change Settings	[Auto]	
Serial Port 1 Type	[RS232]	
COM2 Pin9 Definition	[RI]	
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Serial Port

Options: Disabled, Enabled

Change Settings

Options: Auto,

IO=2F8h; IRQ=3;

IO=3F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;

IO=2F8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;

IO=3E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;

IO=2E8h; IRQ=3, 4, 5, 6, 7, 9, 10, 11, 12;

Serial Port Type

Options: RS232, RS422, RS485

COM2 Pin9 Definition

Options: RI, +5V

Table 16 Advanced Menu –H/W Monitor

BIOS SETUP UTILITY					
Main	**Advanced**	Boot	Security	Save & Exit	
PC Health Status				→ ← Select Screen ↑↓ Select Item Enter: Select +- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4 Save & Exit ESC Exit	
CPU Warning Temperature		[Disabled]			
CPU Temperature		: +50 C			
Bottom Side System Temperature		: +51 C			
Top Side System Temperature		: +49 C			
+3.3V		: +3.344 V			
+VCORE		: +0.864 V			
+1.05V		: +1.008 V			
+1.5V		: +1.517 V			
+5VDUAL		: +5.120 V			
+VIN		: +19.448 V			
+3.3VSB		: +3.360 V			
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CPU Warning Temperature

Options: Disabled, 80 C, 85 C, 90 C, 95 C

■ Boot Menu

Table 17 Boot Menu

BIOS SETUP UTILITY				
Main	Advanced	**Boot**	Security	Save & Exit
Boot Configuration				
Full Screen LOGO Display	[Disabled]			→ ← Select Screen
Setup Prompt Timeout	1			↑↓ Select Item
Bootup NumLock State	[On]			Enter: Select
UEFI Boot	[Disabled]			+- Change Opt.
Boot Option Priorities				F1: General Help
Boot Option #1	[P1: INTEL SSDSA2M04..]			F2: Previous Values
Hard Drive BBS Priorities				F3: Optimized Defaults
				F4 Save & Exit
				ESC Exit
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Full Screen LOGO Display

Options: Disabled, Enabled

Bootup Numlock State

Options: On, Off

UEFI Boot

Options: Disabled, Enabled

Boot Option #1

Options: P1: INTEL SSDSA2M040G2GC, Disabled

Hard Drive BBS Priorities

■ **Boot Option #1 [INTEL SSDSA2M040G2GC]**

Options: INTEL SSDSA2M040G2GC, Disabled

■ Security Menu

Table 18 Security Menu

BIOS SETUP UTILITY	
Main Advanced Boot **Security** Save & Exit	
Password Description If ONLY the Administrator's password is set, then this only limits access to Setup and is only asked for when entering Setup If ONLY the User's password is set, then this is a power on password and must be entered to boot or enter Setup. In Setup the User will have Administrator rights The password length must be in the following range: Minimum Length 3 Maximum length 20 Administrator Password User Password HDD Security Configuration P1 : INTEL SSDSA2	→ ← Select Screen ↑↓ Select Item Enter: Select +- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4 Save & Exit ESC Exit
Version 2.15.1234. Copyright (C) 2012, American Megatrends, Inc.	

■ Save & Exit Menu

Table 19 Save & Exit Menu

BIOS SETUP UTILITY				
Main	Advanced	Boot	Security	**Save & Exit**
Discard Changes and Reset Discard Changes and Reset Save Options Save Changes Discard Changes Restore Defaults				→ ← Select Screen ↑↓ Select Item Enter: Select +- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4 Save & Exit ESC Exit
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Save Changes and Exit

Exit system setup after saving the changes. Once you are finished making your selections, choose this option from the Exit menu to ensure the values you selected are saved to the CMOS RAM. The CMOS RAM is sustained by an onboard backup battery and stays on even when the PC is turned off. When you select this option, a confirmation window appears. Select [Yes] to save changes and exit.

Discard Changes and Exit

Exit system setup without saving any changes. Select this option only if you do not want to save the changes that you made to the Setup program. If you made changes to fields other than system date, system time, and password, the BIOS asks for a confirmation before exiting.

Discard Changes

Discards changes done so far to any of the setup values. This option allows you to discard the selections you made and restore the previously saved values. After selecting this option, a confirmation appears. Select [Yes] to discard any changes and load the previously saved values.

Load Optimal Defaults

Load Optimal Default values for all the setup values. This option allows you to load optimal default values for each of the parameters on the Setup menus, which will provide the best performance settings for your system. The F9 key can be used for this operation.

Load Failsafe Defaults

Load Optimal Default values for all the setup values. This option allows you to load failsafe default values for each of the parameters on the Setup menus, which will provide the most stable performance settings. The F8 key can be used for this operation.

Chapter 4

Driver Installation

If your QDSP-5000 does not come with an operating system pre-installed, you will need to install an operating system and the necessary drivers to operate it. After you have finished assembling your system and connected the appropriate power source, power it up using the power supply and install the desired operating system.
For other operating systems, please contact with your nearest Quanmax Sale.